

Title (en)

METHODS AND SYSTEMS FOR PROCESSING IMAGES TO PERFORM AUTOMATIC ALIGNMENT OF ELECTRONIC IMAGES

Title (de)

VERFAHREN UND SYSTEME ZUR VERARBEITUNG VON BILDERN ZUR DURCHFÜHRUNG EINER AUTOMATISCHEN AUSRICHTUNG VON ELEKTRONISCHEN BILDERN

Title (fr)

PROCÉDÉS ET SYSTÈMES DE TRAITEMENT D'IMAGES POUR EFFECTUER UN ALIGNEMENT AUTOMATIQUE D'IMAGES ÉLECTRONIQUES

Publication

**EP 3980881 A4 20230712 (EN)**

Application

**EP 20818665 A 20200605**

Priority

- US 201962858155 P 20190606
- US 2020036378 W 20200605

Abstract (en)

[origin: US2020388001A1] Systems and methods are disclosed for aligning a two-dimensional (2D) design image to a 2D projection image of a three-dimensional (3D) design model. One method comprises receiving a 2D design document, the 2D design document comprising a 2D design image, and receiving a 3D design file comprising a 3D design model, the 3D design model comprising one or more design elements. The method further comprises generating a 2D projection image based on the 3D design model, the 2D projection image comprising a representation of at least a portion of the one or more design elements, generating a projection barcode based on the 2D projection image, and generating a drawing barcode based on the 2D design image. The method further comprises aligning the 2D projection image and the 2D design image by comparing the projection barcode and the drawing barcode.

IPC 8 full level

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CPC (source: EP US)

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**G06T 7/33** (2016.12 - EP); **G06T 17/00** (2013.01 - US)

Citation (search report)

- [A] US 5832110 A 19981103 - HULL JONATHAN J [US]
- [Y] TRZECIAK MACIEJ: "Towards Registration of Construction Drawings to Building Information Models", 30. FORUM BAUINFORMATIK, 19 September 2018 (2018-09-19), pages 1 - 7, XP093051763, Retrieved from the Internet <URL:https://publications.cms.bgu.tum.de/2018\_TowardsRegistration\_FBI.pdf> [retrieved on 20230605]
- [Y] ROFER T ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "Using histogram correlation to create consistent laser scan maps", PROCEEDINGS OF THE 2002 IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS. (IROS 2002). LAUSANNE, SWITZERLAND, SEPT. 30 - OCT. 4, 2002; [IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS], NEW YORK, NY : IEEE, US, vol. 1, 30 September 2002 (2002-09-30), pages 625 - 630, XP010609321, ISBN: 978-0-7803-7398-3, DOI: 10.1109/IROS.2002.1041461
- See references of WO 2020247788A1

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DOCDB simple family (application)

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